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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/734,674	12/15/2003	Jin-Hyun Choi	61610106US	6272

58027 7590 01/12/2007

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EXAMINER	
OSORIO, RICARDO	
ART UNIT	**PAPER NUMBER**
2629	

SHORTENED STATUTORY PERIOD OF RESPONSE	MAIL DATE	DELIVERY MODE
3 MONTHS	01/12/2007	PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

If NO period for reply is specified above, the maximum statutory period will apply and will expire 6 MONTHS from the mailing date of this communication.

Office Action Summary	Application No.	Applicant(s)	
	10/734,674	CHOI ET AL.	
	Examiner	Art Unit	
	RICARDO L. OSORIO	2629	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *12 October 2006*.

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-18* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☒ Claim(s) *9-14* is/are allowed.

6)☒ Claim(s) *1-3 and 15-18* is/are rejected.

7)☒ Claim(s) *4-8* is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

Claim Rejections - 35 USC § 103

1. Claims 1-3 and 15-18 are rejected under 35 U.S.C. 103(a) as being unpatentable over applicant's admitted prior art (APA, hereafter) in view of Kim et al. (2003/0151565).

Regarding claims 1 and 14, APA teaches of an image display apparatus, comprising: a display panel having pixels arranged in a matrix and for performing a display operation; a scan driver for sequentially selecting pixel lines of the display panel; a data driver for applying color signals to a corresponding pixel line when the pixel line of the display panel is selected; and a display controller for receiving color data and generating timing signals for controlling the scan driver and the data driver, while transforming the color data into analog signals and performing gamma correction to the transformed analog signals to generate the color signals (see APA, page 2, lines 12-17, all of the above details, mentioned in APA, are typical to any commonly known active matrix flat panel display device, EL, PDP, LCD, etc).

However, APA fails to teach that the display controller determines reference data for brightness adjustment in accordance with an average brightness of a screen displayed by the RGB data, and performs gamma correction by adjusting gray levels of the RGB data in accordance with the reference data for brightness adjustment.

Kim teaches of determining reference data for brightness adjustment in accordance with an average brightness of a screen displayed by the RGB data (see Figs. 32 and 33, and paragraphs 151 and 152. The gamma curve selecting unit (73) functions as a look up table, or histogram, which uses a reference data in accordance with an average brightness

from the APL arithmetic unit (71)), and performing gamma correction by adjusting gray levels of the RGB data in accordance with the reference data for brightness adjustment (again, see Figs. 32 and 33, and paragraphs 151 and 152. Gray level adjusting unit (75) performs gamma correction by adjusting gray levels of the RGB data in accordance with the gamma curve, or reference data for brightness, selected in the gamma curve selecting unit (73). Characters 71, 73, and 75 can be considered as part or the display controlling features or part of the display controller itself).

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to have the gamma correction, as taught by Kim in the device of APA, so that the brightness is enhanced much more to thereby prevent a deterioration of the image at low gray level (see paragraph 152).

Regarding claims 2 and 16, APA teaches that the color signals are RGB signals and the color data is RGB data (see APA, page 2, lines 18-23).

Regarding claims 3, APA teaches of RGB data being provided from an external graphic source, and although not specifically taught, it is well known to someone of ordinary skill in the art of flat panel displays for a mobile telephone or PDA to be examples of external graphic sources having graphic controllers.

Regarding claims 17 and 18, further, APA doses not teach of outputting address information to the calculated average brightness, and storing the reference data for brightness adjustment as a data information corresponding to addresses.

Kim teaches of outputting address information to the calculated average brightness, and storing the reference data for brightness adjustment as a data information corresponding to addresses (see Figs. 32 and 33, and paragraphs 151 and 152. In paragraph 152, the address information is the average brightness level for the specific frame which can be low, medium or high, the gamma curves are prepared in advance, or stored, and the reference data corresponding to the address is stored and compared with the gamma curve table in the gamma curve selection unit before the brightness is adjusted).

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to have the gamma correction curves to be matched with the reference data addressed from the average brightness result, as taught by Kim in the device of APA, so that the brightness is enhanced much more to thereby prevent a deterioration of the image at low gray level (see paragraph 152).

Allowable Subject Matter

1. After updating examination, claims 4-8 are still objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

2. The following is a statement of reasons for the indication of allowable subject matter: Claims 4-8 are allowable since certain key features of the claimed invention are not taught or fairly suggested by the prior art. In claim 4, "a D/A converting means for transforming the RGB data outputted from the timing signal generating block and the reference data for brightness adjustment into analog signals; an amplifying block for amplifying the analog signals of the reference data for brightness adjustment outputted from the D/A converting means; and a differential amplifying block for controlling white level of the RGB data by using analog signals of the RGB data and the reference data for brightness adjustment and generating RGB signals". The closest prior art, Kim et al. (2003/0151565) discloses performing gamma correction by adjusting gray levels of the RGB data in accordance with reference data for brightness adjustment determined by an average brightness, however singularly or in combination fails to anticipate or render the above underlined limitations obvious.

3. After updating examination, claims 9-14 are still allowed.

4. The following is an examiner's statement of reasons for allowance: Claims 9-14 are allowable since certain key features of the claimed invention are not taught or fairly

suggested by the prior art. In claim 9, "a D/A converting means for transforming the RGB data outputted from the timing signal generating block and the reference data for brightness adjustment into analog signals; an amplifying block for amplifying the analog signals of the reference data for brightness adjustment outputted from the D/A converting means; and a differential amplifying block for controlling white level of the RGB data by using analog signals of the RGB data and the reference data for brightness adjustment and generating RGB signals". The closest prior art, Kim et al. (2003/0151565) discloses performing gamma correction by adjusting gray levels of the RGB data in accordance with reference data for brightness adjustment determined by an average brightness, however singularly or in combination fails to anticipate or render the above underlined limitations obvious.

Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably accompany the issue fee. Such submissions should be clearly labeled "Comments on Statement of Reasons for Allowance."

Response to Arguments

5. Applicant's arguments filed 10/12/2006 have been fully considered but they are not persuasive. First, applicant argues that Applicant's admitted prior art (APA) refers to an organic EL and that Kim relates to a plasma display, and that they are utilizing different structures and operate on different principles, and therefore, they could not be combined.

Examiner disagrees because, first of all, claims 1 and 15 make no reference to an organic EL display. Claims 1 and 15 simply and broadly make reference in the preamble to an

"image display apparatus". Next, examiner uses the "APA" information to only, and simply, to show that limitations in an "image display device", such as, a scan driver, a data driver, and a display controller for generating timing signals and performing gamma correction are typical of any well known image display device, including the plasma display device of Kim, EL display, LCD display, etc.

Next, applicant argues that the Kim reference uses its teachings for a different motivation, or confronting a different problem than the applicant.

Examiner disagrees because the fact that applicant has recognized another advantage which would flow naturally from following the suggestion of the prior art cannot be the basis for patentability when the differences would otherwise be obvious. See *Ex parte Obiaya*, 227 USPQ 58, 60 (Bd. Pat. App. & Inter. 1985).

Furthermore, originally, examiner found that Kim appeared silent to said generic limitations and that is why a rejection under 103 was preferred to a rejection under 102. Upon further consideration, examiner now finds Kim includes such limitations (see Kim page 1, paragraph 14). Upon further consideration, examiner now finds Kim includes such limitations (see Kim page 1, paragraph 14). However, examiner maintains his position that 103 rejection of APA in view of Kim is proper, because of the above mentioned arguments.

Conclusion

6. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

7. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Other references, such as Eglit (5,734,362) and Hellen Brown Elliot et al. (2003/0103058) appear to be as useful as the Kim reference being used in this and original Office Action to reject the pending claims.

8. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Ricardo L. Osorio whose telephone number is 571-272-7676. The examiner can normally be reached on Monday through Thursday from 7:00 A.M. to 5:30 P.M. If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Bipin Shalwala whose telephone number is 571-272-7681.

Any response to this action should be mailed to:

Commissioner of Patents and Trademarks

Washington, D.C. 20231

or faxed to: 571-273-8300 (for Technology Center 2600 only)

Hand-delivered responses should be brought to the Customer Service Window at the Randolph Building, 401, Dulany Street, Alexandria, VA 22314.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

RICARDO OSORIO
PRIMARY EXAMINER
Technology Division: 2629

RLO
January 6, 2007